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ABSTRACT

The New York City Board of Education's 1984-85 Attendance Improvement/Dropout Prevention Program was less than a complete success. This report compares the least and most successful schools, analyzing the factors that determine success: (1) size, (2) cost, and (3) services. Successful programs were consistently smaller, serving a smaller portion of their eligible student group; more service-intensive; and more generously funded on a per capita basis. They were more concentrated and manageable. Direct services to students, including personal contact and care, are extremely important. Interventions must be easily managed; not only do smaller programs foster closer relationships but they are also easier to start, modify, and operate. The obvious difficulty with these insights is that the city's problems are not small; substantial numbers of children need help and resources are scarce. Educators must quickly learn to integrate more resources and to serve increasing numbers of youngsters while preserving their commitment to each individual child. (LHW)

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EFFECTIVE DROPOUT PREVENTION

AN INVESTIGATION OF THE 1984-85 PROGRAM IN NEW YORK CITY

A Comparison of Least &
Most Successful Schools
Analyzing Factors That Make
or Break the Program:
Size, Cost, Services

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**A report of the
PUBLIC EDUCATION ASSOCIATION
by Eileen Foley, Project Director
and Peggy Crull, Ph.D.**

Effective Dropout Prevention:
An Investigation of the 1984-85 Program
in New York City

Report No.2. Dropout Prevention Series

October 1986

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New York Community Trust.

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The work was generously supported by grants from the Carnegie Corporation and the New York Community Trust. We thank them for the opportunity to look into a multi-million dollar school improvement initiative for some basic insights into dropout prevention.

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SUMMARY

Given delays in program implementation and uncertainty about program design, little surprise greeted the Board of Education's announcement that the 1984-85 Attendance Improvement/Dropout Prevention Program (AI/DP) in the community school districts was less than a complete success.

Attendance generally improved among target students in the elementary schools, but it generally declined among target students in the middle schools. Unfortunately, however, since there were no comparison groups, it was not possible to tell if the improvement in the elementary schools (where attendance generally improves from grade to grade) was greater than could be expected in the absence of a program or if the decline in attendance in the middle schools (where attendance generally declines from grade to grade) was lesser than could be expected in the absence of a program.

As or more problematic for the Public Education Association (PEA), which had monitored the implementation of the program, was the weak correspondence between common sense appraisals of various programs' strengths and weaknesses and their effect on student attendance.

The present study is an attempt to understand those often counter-intuitive outcomes. It is based on a comparison of ten of the most and ten of the least successful schools, followed by a comparison of five of the most and five of the least successful middle schools.

To summarize briefly, we found two explanations for fluctuation in attendance. The first explanation was "nuisance variables," that is, variables other than program characteristics which influence outcomes and consequently handicap efforts to understand how programs specifically affect student performance. For example, programs which served elementary school age youngsters often were associated with improved attendance even when they were quite inadequately designed and implemented because attendance as a rule improves in the early grades.

Other nuisance variables were identified when we found that some programs designed to serve older youngsters (whose attendance can be expected to decline if there is no intervention) which were never implemented nevertheless showed dramatically improved attendance. This occurred, the data suggest, because some schools either reported students' attendance scores incorrectly or because they were systematically targeting youngsters for service whose high rate of absence the prior year was a fluke, for example, students who had been out due to a non-recurring illness.

The first set of explanations for outcomes, while interesting, tell us little about program design. The second set of explanations is more instructive. In a comparison of successful well implemented middle school programs with unsuccessful well implemented middle schools programs it was possible to generate some tentative explanations for program success.

Successful programs were consistently smaller, more selective in that they chose a smaller portion of their eligible student group to serve, more service-intensive and more generously funded on a per capita basis. In sum, they were more concentrated and more manageable. The differences were large. For example, program size in the successful cases averaged 42 students and in the unsuccessful cases 93 students. The per capita allocation in the successful cases was \$2171 and in the unsuccessful cases \$665.

While the above comparisons were based upon a very limited sample, the patterns resonate throughout the data and are consistent with other research. If the 128 middle schools in our sample are grouped by the size of their target population, it is quite clear that attendance on average improved only in the smallest group, the group in which sample sizes ranged from 20 to 40 students. Small groups, of course, can be expected to be spending more per capita, so the effect should not be seen as a function of smallness in isolation from the other variables identified previously.

These data add support to the growing consensus that students with serious attendance problems require concerted, not occasional, attention and substantially, not marginally, modified school experiences. The data

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also confirm the value of interventions that are easily managed -- as launching a program is central to its effectiveness.

Smallness is a winning strategy on both counts. Smaller programs not only foster closer relationships, they are easier to start, modify, and operate.

The obvious difficulty with these insights about spending and size is that the city's problems are not small; substantial numbers of children need help, and resources as always are scarce. While it may make sense to start with small-scale programs, educators must quickly learn to integrate more resources and to serve increasing numbers of youngsters while preserving their commitment to each individual child. The problems involved in scaling up small programs and in assuring they maintain their child-centeredness are immense, but those are the challenges.

INTRODUCTION

In March of 1984 the New York State Legislature set aside 22.4 million dollars for programs to increase attendance and reduce the enormous dropout rate in New York City. Community School Districts received 60% of the funds. District allocations ranged from \$103,000 to \$923,000 and were based on a formula which took students' average daily absences and the number of pupils reading below promotional standards in 1982-83 into account.

The Public Education Association, along with a number of advocacy groups, was active during the drafting of the Board of Education's plan to encourage the development of appropriate programs. Once the Attendance Improvement/Dropout Prevention Programs were in place, PEA undertook to monitor implementation in selected schools in the community school districts. The results of that monitoring are described in the report entitled "Dropout Prevention: A First Step"

That study employed an informal case-study approach and generated questions about a possible systematic relationship among student-school-program characteristics and program effects. The current study addresses those issues by comparing schools which showed the greatest improvement in target students' attendance with those which showed the least.

Our expectation in starting this effort was that positive program effects would be associated with smaller, more comprehensive and expensive programs that lasted longer and targeted less disadvantaged youngsters (higher prior attendance) in less disadvantaged schools (smaller, elementary schools with higher socio-economic status students, higher prior attendance, and greater per capita spending on attendance). These expectations were based on the common sense view that higher intensity interventions (more comprehensive, expensive, and longer lasting) in schools with a better climate for learning would be especially motivating to youngsters with less entrenched patterns of failure.

Ultimately we examined the relationship between percentage improvement in target group attendance and 10 other variables. Two variables related to target students' characteristics: size of group and prior attendance of target group. Five variables related to school-wide characteristics: average socio-economic status of all students, average attendance rates in the entire school in the year prior to the program, academic level of the school (elementary or middle school), size of the school, and rate of per capita spending for attendance services in the program year exclusive of the AI/DP investment. There were four program variables: type of services provided, planned spending, months of active programming and dollar value of service delivered per capita based on months of active programming.

METHODS OF INVESTIGATION

The AI/DP proposals submitted by each district to the Board of Education provided a description of the program in each school and a report of each school's AIDP budget and pre-existing budget for attendance services. Implementation data was pursued and cross-checked in a variety of ways. As a first step we surveyed schools' mid-year reports on implementation submitted to the Board of Education and in turn to the State Education Department. For middle schools we supplemented that information by conducting phone interviews with school officials familiar with the 1984-85 AI/DP program. Their reports were compared with the case notes of Board of Education program implementation analysts in the Office of Student Progress, and in certain cases with site visit notes from FEA's earlier implementation study (Foley and Warren, 1985).

Board of Education Office of Educational Assessment data files were the source of information on program size and pre- and post-AI/DP program attendance rates. The Board of Education 1984-85 files were also the source for data on school size, pre-program and post-program school-wide attendance rates, and school-wide student socio-economic status data.

As time and budget prohibited comparisons of all the 378 elementary and middle schools which received AI/DP money, the initial examination of data compared the ten schools whose target populations showed the greatest improvement in attendance over the previous year with the ten schools whose target populations showed the least.*

After looking at these data, we decided to do additional comparisons of the five middle schools whose target populations showed the greatest improvement and the five whose populations showed the least improvement.

Because of the smallness of the sample and the exploratory nature of the research, statistical comparisons were not carried out. Instead, the conclusions drawn are based on inspection of the data and comparisons of averages where appropriate.

*In part because the mobility rate is high in schools, we often had a very small number of students for whom pre-program and post-program attendance data were available. To increase our confidence that the data was reflective of overall trends, we chose to include only schools for which we had pre-program and post-program data for at least thirty students. Ultimately, therefore, we compared the ten most and least successful schools with complete data for at least thirty students.

FINDINGS

I. ALL SCHOOLS COMBINED

PROGRAMS SHOWING THE GREATEST AND LEAST IMPROVEMENT IN ATTENDANCE

Table IA (p.7) shows the ten programs with complete data where target students in the AI/DP program evidenced the greatest improvement in attendance over the previous year. Table IB (p.8) shows the ten programs with complete data where target students showed the least. Indeed, the 10 programs at the bottom of the list actually showed a decline in attendance over 1983-84.

In the ten schools with the most improvement in attendance, students previously attending school on average 71.29% of the time were now attending 84.63% of the time, an increase exceeding 13 percentage points. In the ten schools with the least improvement, there was a decline from an average of 74.05% attendance to 62.01%, approximately 12 percentage points.

STUDENT CHARACTERISTICS WHICH MAY INFLUENCE PROGRAM SUCCESS

In an effort to determine if characteristics of target students were having an impact on program outcomes, we compared the attendance records of the target group in the most and least successful schools. Table 1A shows that in the most successful schools students averaged

TABLE IA
Ten 1984-85 AIDP Programs with Greatest
Positive Effect on Target Group Attendance Rates^a

^e District	School	Rank	1983-84 %Attendance ^b	1984-85 %Attendance ^b	Difference	Size of Target Population	Number of Students in Sample ^d
A	IS 193	1	56.41	89.55	-33.14	47	40
B	(J) CIP	2	65.58	78.91	-13.33	50	35
C	PS 128	3	73.30	85.49	-12.19	130	72
D	PS 182	4	74.32	86.14	-11.81	33	31
C	PS 152	5	71.72	83.39	-11.67	133	110
E	PS 143	6	72.23	83.42	-11.19	45	38
F	(J) 118	7	72.20	82.93	-10.73	41	39
E	PS 13	8	75.71	86.28	-10.56	45	32
C	PS 192	9	73.29	83.19	- 9.91	85	68
E	PS 19	10	78.10	86.97	- 8.87	47	31
Average =			71.29 ^c	84.63 ^c	-13.34	66	50

^a School programs with less than 30 students for whom pre- and post-program data were available were excluded from analysis.

^b %Attendance is the mean pupil attendance rate for the school year. It is calculated by dividing the average daily register into the average daily attendance.

^c These are not weighted averages. Each school is given equal weight regardless of the size of the student population.

^d The students for whom we have pre- and post-program data are, of course, a sub-group of the target group. The size of the target group is reported to show school mobility rates and actual program size.

^e Districts are not identified other than by a code letter to protect the anonymity of both the districts and the schools. The code letter is used consistently. When it is repeated that indicates the district has more than one school represented.

TABLE 1B

Ten 1984-1985 AIDP Programs with Greatest Negative
Effect on Target Group Attendance Rates ^a

District ^e	School	Rank	1983-84 Attendance ^b	1984-85 Attendance	Difference	Size of Target Population	Number of Students in Sample ^d
F	J 227	1	68.49	52.71	15.78	324	111
G	J 45	2	72.30	56.78	15.52	122	81
H	IS 226	3	73.93	61.94	11.99	87	71
I	IS 49	4	67.72	56.02	11.70	98	76
J	IS 291	5	74.76	63.13	11.63	93	76
E	J 93	6	80.20	68.60	11.59	113	105
E	J 73	7	79.62	68.34	11.29	122	100
K	J 25	8	69.46	58.91	10.55	68	58
L	IS 131	9	79.00	68.70	10.30	116	100
M	IS 51	10	74.98	64.96	10.02	86	47
Average =			74.05 ^c	62.01 ^c	12.04	123	83

^a School programs with less than 30 students for whom pre- and post-program data were available were excluded from analysis.

^b Attendance is the mean pupil attendance rate for the school year. It is calculated by dividing the average daily register into the average daily attendance.

^c These are not weighted averages. Each school is given equal weight regardless of the size of its student population.

^d The students for whom we have pre- and post-program data are, of course, a sub-group of the target group. The size of the target group is reported to show school mobility rates - actual program size.

^e Districts are not identified other than by a code letter to protect the anonymity of both the districts and the schools. The code letter is used consistently. When it is repeated that indicates the district has more than one school represented.

71.29% daily attendance in the year before the AI/DP program started. In the least successful schools, contrary to our prediction, the previous year's attendance was higher, the average being 74.05% (see Table 1B). While we did not anticipate that students with worse prior attendance would improve more than those with better attendance, the finding is not hard to reconcile with statistical regression toward the mean. It may be that the more extreme cases of student absenteeism are due to events that are unlikely to occur two years in a row.

The second variable which we examined was size of group targeted for services. We anticipated that smaller programs would have the advantage both organizationally, in that they would be easier to implement, and programmatically, in that students would receive more individualized treatment. The data appears to sustain this hypothesis. The average size of the target population of successful programs was 66 students (see Table 1A). The average size of the target population of unsuccessful schools was 123 students, a difference of almost 200% (see Tables 1B).

SCHOOL CHARACTERISTICS WHICH MAY INFLUENCE PROGRAM SUCCESS

As differences in success and failure of these twenty AI/DP programs

may be related to some feature of the larger school, several school variables were examined: the socio-economic status of all of the students in target schools, the schools' non-AI/DP commitment to attendance services (spending per capita), school size, and school level.

As a measure of socio-economic status, Board of Education 1984-85 Chapter 1 data on the percentage of low-income students in each school was compared. The purpose of the comparison was to test the possibility that the ten schools with a decline in attendance had a noticeably larger number of low-income students who might experience special difficulties that deflate overall school performance. Table II (p.11) shows the income comparisons between the 10 most and 10 least successful schools. In reality the 10 least successful schools had a slightly lower proportion of low-income students. The difference, however, is small and the variation within the two groups so enormous that the value of comparisons based on averages appears negligible.

Table III (p.12) shows, however, that in keeping with our hypothesis, successful programs were more likely to be found in schools with higher average overall attendance. The average prior (1983-84) school-wide attendance of successful schools was 87.06%, in unsuccessful schools it was 83.94%. Improvements in the ten highest performing schools were,

TABLE II
Variation in School-Wide Percent of Low-Income Children

Ten Most Effective Programs			Ten Least Effective Programs		
District	School	% Low Income	District	School	% Low Income
A	IS 193	51.49	F	J 227	38.63
B	(J) CIP	No School Prior to 1985-86 School Year.	G	J 45	45.16
C	PS 128	77.63	H	IS 226	34.88
D	PS 182	46.58	I	IS 49	98.65
C	PS 152	58.30	J	IS 291	90.87
E	PS 143	57.57	E	J 93	43.49
F	J 118	No Information	E	J 73	25.94
E	PS 13	36.61	K	J 25	73.88
C	PS 192	72.51	L	IS 131	40.75
E	PS 19	44.00	M	IS 51	27.13
Average =		55.59 ^a	Average =		51.95 ^a

^a These are not weighted averages. Each school is given equal weight regardless of the size of its student population.

TABLE III
Variation in School-Wide Attendance Rates Between Pre-Program
(1983-1984) and Program Year (1984-1985)

Ten Most Effective Programs				Ten Least Effective Programs			
Dist.	School	1983-84 % Attendance ^a	1984-85 % Attendance ^a	Dist.	School	1983-84 % Attendance ^a	1984-85 % Attendance ^a
A	IS 193	80.82	73.91	F	J 227	82.97	84.06
B	(J) CIP	No Data New School	78.91	G	J 45	80.81	77.57
C	PS 128	89.07	90.52	H	IS 226	83.74	84.43
D	PS 182	87.13	89.92	I	IS 49	78.74	80.19
C	PS 152	89.27	91.04	J	IS 291	75.11	77.70
E	PS 143	89.17	91.75	E	J 93	83.55	83.49
F	J 118	78.03	83.03	E	J 73	89.52	89.59
E	PS 13	91.70	92.48	K	J 25	83.45	84.18
C	PS 192	88.27	89.85	L	IS 131	94.39	93.38
E	PS 19	90.08	No Information	M	IS 51	87.13	89.24
Average =		87.06 ^b	86.82 ^b	Average =		83.94 ^b	84.38 ^b

^a % Attendance is the mean pupil attendance rate for the school year. It is calculated by dividing the average daily register into the average daily attendance.

^b These are not weighted averages. Each school is given equal weight regardless of size of student population.

however, not a reflection of an overall improvement in school-wide attendance between 1983-84 and 1984-85. Table III shows that overall shifts in attendance between those two years in both sets of schools were miniscule.

Our hypotheses regarding school size and non-AI/DP attendance spending per capita were partially supported. Tables IVA and IVB (p.14 and p.15) show that successful schools averaged 921 students and spent \$16.00 per capita on non-AI/DP attendance services. Unsuccessful schools hovered around 1,305 students with approximately \$13.00 per capita in spending. While the size differences seem meaningful, the spending averages mask considerable variability and may not be.

Grade level of school, a factor which had not specifically been anticipated, appeared as a major influence on program success. If elementary and middle schools were randomly distributed among the 10 most and 10 least successful schools, there would be 6 elementary and 4 middle schools in each group. As the lists in Tables 1A and 1B show, however, all of the least effective programs were in middle schools and seven of the most effective programs were in elementary schools. There are, in other words, a greater number of elementary schools at the top and middle schools at the bottom than would be expected by chance. An examination of the entire list of 378 schools showed that this pattern held up in the entire group: elementary schools predominated on the end of the continuum of programs showing improvement.

TABLE IVA
School-Wide Non-AIDP Program Spending for Attendance Services
in Schools with Greatest Positive Effect on Target Group Attendance Rates

District	School	Rank	Total Non-AIDP Exp.	Audited Register	Per Capita Non-AIDP Exp.
A	IS 193	1	\$ 18,850	567	\$ 33
B	(J) CIP	2	Not Applicable ^a	50	Not Applicable ^a
C	PS 128	3	12,706	1,333	10
D	PS 182	4	2,178	339	6
C	PS 152	5	7,462	1,438	5
E	PS 143	6	4,078	397	4
F	(J) 118	7	49,040	702	70
E	PS 13	8	4,078	1,118	4
C	PS 192	9	16,785	1,564	11
E	PS 19	10	4,078	1,100	4
Average =			\$ 13,251	921	\$ 16 ^b

^a This school was created entirely from AIDP Funds.

^b This is not a weighted average. Each school is given equal weight regardless of the size of its student population.

TABLE IVB

School-Wide Non-AIDP Program Spending for Attendance Services
in Schools with Greatest Negative Effect on Target Group Attendance Rates

District	School	Rank	Total Non AIDP Expense	Audited Register	Per Capita Non AIDP Expense
F	J 227	1	\$ 60,939	1,441	\$ 42
G	J 45	2	25,666	1,125	23
H	IS 226	3	5,051	1,546	3
I	IS 49	4	6,458	727	9
J	IS 291	5	6,243	843	7
E	J 93	6	2,331	2,070	1
E	J 73	7	3,059	2,216	1
K	J 25	8	10,718	328	33
L	IS 131	9	9,789	1,593	6
M	IS 51	10	4,222	1,159	4
		Average	13,448	1,305	13 ^a

^a This is not a weighted average. Each school is given equal weight regardless of the size of its student population

FEATURES OF AI/DP PROGRAMS WHICH MAY ACCOUNT FOR SUCCESS

The significance of academic level as a predictor of success presented a serious difficulty for the conduct of the investigation. Academic level is confounded with almost all of the student and school characteristics for which we reported noticeable differences between successful and unsuccessful schools. Elementary schools have consistently higher attendance rates than middle schools and consistently lower school registers, both of which encourage smaller target group size. To ascertain whether school and program size and school-wide attendance rates were predictive of success, aside from student age/academic level, we needed to separate the elementary from the middle schools. We decided to look at the middle schools since the Board of Education announced that in the future AI/DP programs would not be funded at the elementary school level.

II. MIDDLE SCHOOLS

MIDDLE SCHOOL STUDENT AND SCHOOL CHARACTERISTICS WHICH MAY INFLUENCE PROGRAM SUCCESS

Tables VA and VB (p.17 and p.18) show the five most and least successful middle schools with complete data, their ranks and differences in target students' attendance in the program year and year prior.

TABLE V A
Profile of Five 1984-85 AIDP Middle School Programs
With Greatest Positive Effect on Attendance Rates^a

District	School	Rank	1983-84 %Attendance ^b	1984-85 %Attendance ^c	Difference	Size of Target Population	Number of Students in Sample ^d
A	IS 193	1	56.41	89.55	-33.14	47	40
B	(J) CIP	2	65.58	78.91	-13.33	50	35
F	J 118	3	72.20	82.93	-10.73	41	39
L	J 167	4	75.52	84.36	- 8.84	71	68
B	IS 292	5	83.64	90.88	-7.24	36	31
Average =			70.67 ^c	85.33 ^c	-14.66	49	43

^a School programs with less than 30 students for whom pre- and post-program data were available were excluded from analysis.

^b %Attendance is the mean pupil attendance rate for the school year. It is calculated by dividing the average daily register in the average daily attendance.

^c These are not weighted averages. Each school is given equal weight regardless of the size of its student population.

^d The students for whom we have pre- and post-program data are, of course, a sub-group of the target group. The size of the target group is reported to show school mobility rates and actual program size.

Table VB

Profile of Five 1984-1985 AIDP Middle Schools with Greatest
Negative Effect on Attendance Rates^a

District	School	Rank	1983-84 % Attendance ^b	1984-85 % Attendance ^b	Difference	Size of Target Population	No. of Students in Sample
F	J 227	1	68.49	52.71	15.78	324	111
G	J 45	2	72.3	56.78	15.52	122	81
H	IS 226	3	73.93	61.94	11.99	87	71
I	IS 49	4	67.72	56.02	11.70	98	76
J	IS 291	5	74.76	63.13	11.63	93	76
Average =			71.44 ^c	58.12 ^c	13.32	145	83

- a. School programs with less than 30 students for whom pre- and post-program data were available were excluded from analysis.
- b. % Attendance is the mean pupil attendance rate for the school year. It is calculated by dividing the average daily register into the average daily attendance.
- c. These are not weighted averages. Each school is given equal weight regardless of the size of its student population.
- d. The students for whom we have pre- and post-program data are, of course, a subgroup of the target group. The size of the target group is reported to show school mobility rates and actual program size.

Differences in the prior attendance of target group youngsters in successful and unsuccessful schools do not appear significant. Although, as before, successful schools had a lower average target group attendance, one school accounted for that effect. The target group size is, however, most obviously significant. Successful programs averaged 49 students and were approximately one third the size of unsuccessful programs.

Table VI (p.20) shows that the highest performing middle schools tended to have fewer low income students than the low performing schools, but because group variability is considerable, the difference may not have much significance.

Table VII (p.21) shows additionally that successful schools were not, on average, schools with higher prior attendance than the unsuccessful schools nor were they schools which experienced a strong school-wide press for attendance improvement which swept the target group along. School-wide attendance in both sets of schools started similarly and stayed about the same.

There were interesting differences in school size and non-AI/DP attendance spending. Tables VIII A&B (p.22 & p.23) show that successful schools averaged 846 students where unsuccessful schools

TABLE VI
Variation in School-Wide Percent of Low-Income Children (1985-86 Data)

Five Highest Performing Middle Schools			Five Lowest Performing Middle Schools		
District	School	% Low Income	District	School	% Low Income
A	IS 194	51.49	F	J 227	38.63
B	(J) CIP	No School Year Previous	G	J 45	45.16
E	J 118	77.63	H	IS 226	34.88
I	J 167	24.71	I	IS 49	98.65
B	IS 99	75.11	J	IS 291	90.87
	Average =	57.23 ^d		Average =	62.02 ^d

^d This is not a weighted average. Each school is given equal weight regardless of the size of the student population.

TABLE VII
Variation in School-Wide Attendance Rates Between Pre-Program
(1983-1984) and Program Year (1984-1985)

Five Highest Performing Middle Schools				Five Lowest Performing Middle Schools			
District	School	1983-84 % Attendance ^a	1984-85 % Attendance ^a	District	School	1983-84 % Attendance ^a	1984-85 % Attendance ^a
A	IS 193	80.82	73.91	F	J 227	82.97	84.06
B	(J) CIP	No Data	78.91	G	J 45	80.81	77.57
F	J 118	78.03	83.03	H	IS 226	83.74	84.43
L	J 167	87.30	88.68	I	IS 49	78.74	80.19
B	IS 292	80.11	81.54	J	IS 291	75.11	77.70
Average		81.57 ^b	81.21 ^b	Average		80.27 ^b	80.79 ^b

^a %Attendance is the mean pupil attendance rate for the school year. It is calculated by dividing the average daily register into the average daily attendance.

^b This is not a weighted average. Each school is given equal weight regardless of size of student population.

TABLE VIIIA

School-Wide Per Capita Non-AIDP Spending for Attendance
in Schools with Greatest Positive Effect on Target Group Attendance

District	School	Rank	Total Non AIDP Expense	Audited Register	Per Capita Non AIDP Expense
A	IS 193	1	\$ 18,850	567	\$ 33
B	(J) CIP	2	Not Applicable ^a	Not Applicable	Not Applicable ^a
F	J 118	3	49,040	702	70
L	J 167	4	9,789	1,214	8
B	IS 292	5	7,775	904	9
Average =			21,364	846	30 ^b

^a This school was created entirely from AIDP funds.

^b This is not a weighted average. Each school is given equal weight regardless of the size of its student population.

TABLE VIIIIB
School-Wide Per Capita Non-AIDP Spending for Attendance
in Schools with Greatest Negative Effect on Target Group Attendance

District	School	Rank	Total Non AIDP Exp.	Audited Register	Per Capita Non AIDP Exp.
F	J 227	1	\$ 60,939	1,441	\$ 42
G	J 45	2	25,666	1,125	23
H	IS 226	3	5,051	1,546	3
I	IS 49	4	6,458	727	9
J	IS 291	5	6,243	843	7
Average =			\$ 20,871	1,136	17 ^a

^a This is not a weighted average. Each school is given equal weight regardless of the size of its student population.

averaged 1136 students. While successful schools were spending \$30.00 on non-AI/DP program attendance services, unsuccessful schools were spending only \$17.00 per capita. Again, however, while the differences in spending averages are substantial they coexist with considerable variability in the data and may not be especially meaningful. In sum, two variables -- school size and program size -- appear significant.

PROGRAM VARIABLES WHICH MAY INFLUENCE SUCCESS IN MIDDLE SCHOOLS

There were 5 types of programs represented in the 10 middle schools:

1) Attendance models in which the main component of the program was monitoring the attendance of students and calling and visiting their homes when they were truant. 2) Guidance models in which the main component was working with students individually or in small groups and sometimes with parents to get to the bottom of their attendance problems. 3) A turnaround model in which special teachers were assigned to work with students before and after school hours, often in tutoring or recreation programs. 4) An alternative school model in which special schools were created or several smaller classes within a school set aside for drop-out-prone students, sometimes emphasizing career education. 5) Finally, the teacher-advocate model through which

special teachers were hired who fulfilled functions similar to that of a guidance counselor such as working with students in small groups, but were also available for instructional support. On occasion schools developed their model in conjunction with a community based organization which provided some or all of the services. Many schools followed one model, but several seemed to mix approaches and some changed approaches over time.

In order to determine if any one model or mixture of approaches was more likely to be successful, descriptions of programs in district proposals were compared. Table IX (p.26) summarizes that comparison. (For more detail request Appendix IA & IB from the PEA.) There was a systematic difference in models employed by the most and least successful schools. Three of the unsuccessful schools developed straightforward attendance monitoring and follow-up proposals which underplayed program services. All of the successful schools emphasized services over monitoring.

PLANNED SPENDING

Planned program spending was the second program variable examined. Table XA (p. 27) and XB (p.28) display the proposed group expenditures, target group size, and planned per capita spending.

Table IX
Program Models Adopted by the Five Highest and Five Lowest
Performing Middle Schools

Five Highest Performing Schools				Five Lowest Performing Schools			
District	School	Rank	Model	District	School	Rank	Model
A	IS 193	1	Teacher Advocate	F	J 227	1	Attendance Monitoring
B	CIP	2	Alternative School	G	JHS 45	2	Attendance Monitoring
F	JHS 118	3	Guidance	H	IS 226	3	Guidance Turnaround
L	JH 167	4	Guidance	I	IS 49	4	Attendance Monitoring
B	IS 292	5	Alternative School	J	IS 291	5	Alternative School

TABLE XA
Planned Spending Per Capita in Successful Middle Schools

Rank	District	School	Planned Total Expenditures	Target Population	Planned Per Capita Spending
1	A	IS 193	68,770	47	1,463
2	B	CIP	84,932	50	1,699
3	F	J 118	100,693	41	2,456
4	L	J 167	59,764	71	842
5	B	IS 292	84,932	36	2,359
Average =				49	\$ 1,595

TABLE XB
Planned Spending Per Capita in Unsuccessful Middle Schools

Rank	District	School	Planned Total Expenditures	Target Population	Planned Per Capita Spending
1	F	J 227	26,415	324	82
2	G	JHS 45	104,049	122	853
3	H	IS 226	85,715	87	985
4	I	IS 49	55,534	98	566
5	J	IS 291	143,861	93	1,547
Average =				145	\$ 807

While the least successful schools had more dollars than the most successful, they planned to distribute them over many more students resulting in lower planned per capita funding by 50%. Successful schools planned to spend \$1,595 per capita; unsuccessful schools \$807 per capita.

III. IMPLEMENTED MIDDLE SCHOOL PROGRAMS

LEVEL OF IMPLEMENTATION

The most critical program issues, however, do not concern program plans, neither intended expenditures nor services, but actual programs and actual expenditures. The most successful schools were expected to have earlier implementation dates, better quality implementation and, therefore, real spending more in line with proposed spending than the least successful schools. Appendix 2A and 2B, available from the PEA, provide job descriptions of personnel in each of the schools and the dates staff members began functioning in that capacity, as reported by school staff. Table XI (p.30) summarizes that data roughly, and the information is very difficult to integrate with program outcomes. In two of the most successful schools, implementation was delayed until December and January by the schools' own reporting. To complicate matters further, Board of Education officials report that those programs were never implemented. In two of the least successful

Table XI
Implementation Dates^a of Programs in the Five Highest and
Lowest Performing Middle Schools

Five Highest Performing Schools				Five Lowest Performing Schools			
District	School	Rank	Implementation Date	District	School	Rank	Implementation Date
A	IS 193	1	12/84 ^d	F	J 227	1	12/84
B	CIP	2	9/84	G	JHS 45	2	9/84 ^b
F	J 118	3	9/84	H	IS 226	3	9/84
L	J 167	4	1/85 ^d	I	IS 49	4	9/84 ^c
B	IS 292	5	9/84	J	IS 291	5	3/85

^a These dates are based on the schools' report, of when services actually started to be delivered to the students. These dates do not necessarily represent dates of full service capacity, but rather, when at least some of the services were in place.

^b There were substantial interruptions in services although the program started in September; see appendix for details.

^c It is difficult to set an implementation date here. The district coordinator started working in June and all staff began planning in September. The attendance assistant began her monitoring duties in September. However, the attendance teacher did not begin direct service until the end of February.

^d The Office of Student Progress says these programs were never implemented.

schools, implementation was underway by September, and uninterrupted during the school year, and these reports were confirmed by the Office of Student Progress.

VALUE OF SERVICES BASED ON IMPLEMENTATION DATES

If we accept the schools' reports of program implementation dates, it is conceivable that high intensity programs, i.e. those spending a great deal per capita, even if they started late, were providing more services than those starting earlier but spending less or spending as much but in less productive ways, for example, in attendance monitoring rather than direct services.

Tables XIYA and XIYP (p.32 & p.33) show the value of services actually delivered to students [Value of Services = School's Allocation x (Months of Active Programming - Months of Planned Program)] as reported by the schools' staffs. In one of the two highly successful schools with a poorly implemented program (based on the school's own report of start up dates) the dollar value of the program, based on the number of months of implementation, slips below the dollar value of the typically unsuccessful program, undermining the possibility that it was program intensity that accounted for the effect despite late start up.

TABLE XIIA
Value of Services Per Capita Based on Implementation Dates
in Successful Middle Schools

Rank	District	School	Value of Services Based on Implementation Dates ^a	Target Population	Actual Per Capita Spending
1	A	IS 193	46,125	47	981
2	B	CIP	84,932	50	1,699
3	F	J 118	100,693	41	2,456
4	L	J 167	33,329 ^b	71	469
5	B	IS 292	84,932	36	2,359
Average =				49	1,593

^a These figures were derived in the following manner: First the total planned spending was divided by the planned number of months of operation, (10 months in most cases). This provided a monthly value of services. Then the monthly figure was multiplied by the number of months that the program actually operated.

^b As appendix 2A indicates, accruals in this school were apparently used to hire per session teachers to help with after-school trips. Since we were not able to ascertain the amount of money spent on these teachers, however, no dollar value is assigned to these services.

TABLE XIIB
Value of Services Per Capita Based on Implementation Dates
in Unsuccessful Middle Schools

Pank	District	School	Value of Services Based on Implementation Dates ^a	Target Population	Actual Per Capita Spending
1	F	J 227	16,807	324	52
2	G	JHS 45	73,493	122	602
3	H	IS 226	84,887	87	975
4	I	IS 49	34,786	98	355
5	J	IS 291	72,376	93	778
Average =				145	552

^a

These figures were derived in the following manner: First the total planned spending was divided by the planned number of months of operation (10 months in most cases). This provided a monthly value of services. Then the monthly figure was multiplied by the number of months that the program actually operated.

Further, if you accept the OSP report that in these two successful schools there was no programs in operation ever, there is clearly no basis for a program effect.

If the two promptly-implemented, uninterrupted, but unsuccessful programs are similarly scrutinized, their low rate of spending pro-rated by modest implementation delays suggests that they spread their resources too thinly to be effective. Expressed in terms of program design, this means that simple attendance monitoring, in the absence of supportive services, does not work well.

ALTERNATIVE EXPLANATIONS FOR SUCCESS OF POORLY IMPLEMENTED PROGRAMS

In the two cases where schools without promptly-implemented programs produced powerful effects, several explanations are possible. One, of course, is error (or cheating), i.e. that the attendance data was incorrectly reported. The other explanations while more interesting are not more compelling given the limited data. Perhaps the program, narrowly construed, did not produce the effect, but some other condition in the school, for example, an excellent pre-existing attendance program, produced it. In general this seems unlikely. As overall attendance did not improve in either school, marked improvement

in any sub-group would be difficult to explain. On the other hand, J.H. 167, one of the two schools under question was unlike any other school in the sample in that its general attendance was quite high and its students from a much less disadvantage economic group, so perhaps (although this seems unlikely) the general climate made a difference.

Another explanation for effects without programs has to do with the target group selected, not the program or the school. It is quite possible that successful schools without programs chose youngsters for their target population who were already improving, i.e. youngsters not in need of services: youngsters, for example, whose absences should have been excused the prior year due to illness or youngsters whose absences were a function of some non-recurring calamity such as homelessness. This hypothesis receives modest support from the comparison in Table XIII (p.36) between the eligible population in each school and size of the selected group. Despite their receiving fewer dollars and having virtually equal numbers of at-risk students, successful schools tended to be more selective than unsuccessful schools, i.e. they chose a much smaller chunk of their eligible group to serve. Unfortunately, while this explanation has some explanatory power in the case of IS 193, it makes no sense in the case of JH 167, because that school served a very high proportion of its eligible population.

Table XIII

Comparison of Target Group Size with Eligible School Population

Five Highest Performing Middle Schools					Five Lowest Performing Middle Schools				
District	School	Target Group	Eligibles ^a	%	District	School	Target Group	Eligibles ^a	%
A	IS 193	47	300	15%	F	J 227	324	152	213% ^b
B	(J) CIP	50	Not Applicable		G	J 45	122	292	42%
F	J 118	41	172	24%	H	IS 226	87	191	46%
L	J 167	71	129	55%	I	IS 49	98	196	50%
B	IS 292	36	222	16%	J	J 291	93	223	42%

^a Number of students in school who match attendance criteria recommended by Chancellor, that is, 30 to 70 absences in the previous academic year.

^b This school served substantial numbers of youngsters not technically eligible under the Chancellor's recommended (but not prescribed) criteria.

COMPARISON OF IMPLEMENTED PROGRAMS

The presence of unimplemented successful programs underscores a dilemma equal in proportion to the finding that the age/grade level of students had a powerful effect on students' receptivity to AI/DP programs and, therefore, had to be factored out of the analysis if we were to learn something explicit about program design. At this juncture, it is necessary to factor out the unimplemented programs from the analysis and compare only successful and unsuccessful programs which were fully implemented.

Table XIV (p.38) summarizes data for the five schools -- three successful and two unsuccessful -- which implemented their programs in September and maintained a constant level of activity after that point. One of the successful schools was an alternative school expressly set up with AI/DP funds. No data were available from this school, therefore, for those items which referred to pre-existing conditions in the overall institution housing an AI/DP program. Some of the means for the successful schools, therefore, are based on an "n" of two and some are based on an "n" of three.

While the data is limited, the last five items on Table XIV are of key importance because they are explicitly programmatic, because the means

Table XIV
Comparison of Middle Schools Which Implemented Programs

Items	Table Reference	Successful Schools	Unsuccessful Schools
Previous Attendance of Target Group	V	73.8% (3)	70.8% (2)
% Target Group Low Income	VI	76.3% (2)	66.8%* (2)
Prior Attendance of Overall School	VII	79.1% (2)	81.2% (2)
Improvement in School Attendance	VII	3.2% (2)	1.8% (2)
School Register	VIII	802	1136* (2)
Prior Per Capita Attendance Spending	VIII	\$39.5* (2)	\$6 (2)
Programs Limited to Attendance Monitoring	IX	0 (3)	1 (2)
Size Target Group	X	42.3	92.5
Planned Spending Per Capita	X	\$2171.	\$775.5
Actual Spending Per Capita	XI & XII	\$2171.	\$665.0
% Eligible Students Selected for Program	XIII	20%	48%

* The scores which formed this mean were very different; the mean does not reflect either.

reflect stable tendencies in the data, and because the six preceeding control variables do not suggest systematic interference.

It is clear that successful programs were consistently smaller, more selective, more service-intensive, and more generously funded on a per capita basis. The differences are by a factor of two and in some cases three.

Patterns of Effectiveness

Figure 1 (p.40) graphically illustrates that the pattern noted persists throughout the data. It shows the relationship of small group size, which can be expected to be accompanied by high per capita spending and the other variables previously mentioned, and outcomes for all middle schools. Figure 1 groups the 128 middle schools with sample sizes (Ns) greater than ten into bundles based on their sample size. Table XV (p.41) shows the groups, the numbers of schools in each group, and the average change in attendance within the group. Working from either the graph or the tabular data, it is quite clear that the only group in which attendance on average improved was the smallest group, the group in which sample sizes ranged from 20 to 40 students. This does not mean there were no successful large programs. There were several, but

FIGURE I

Average Rate of Attendance Improvement/Decline by Sample Size (N)

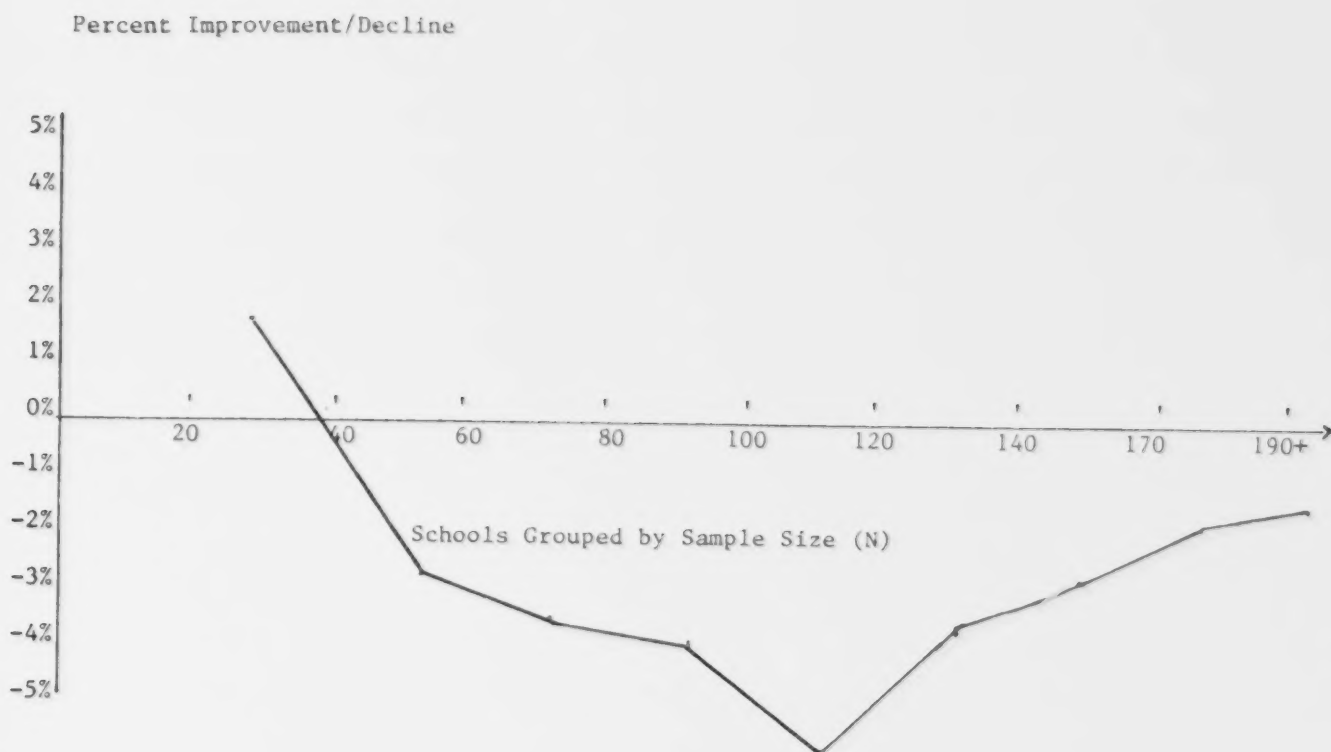


Table xv

AIDP Middle Schools Grouped by Numbers of Students
in Target Population for Whom Pre- and Post-Test Data Are Available

<u>Group Size</u>	<u>Numbers of Schools in Group</u>	<u>Average Percent Difference in Attendance of Students in Schools with that Group Size</u>
21-40	22 Schools	1.55% Improvement
41-60	17 Schools	2.84% Decline
61-80	24 Schools	3.28% Decline
81-100	22 Schools	3.54% Decline
101-120	10 Schools	5.07% Decline
121-140	7 Schools	2.93% Decline
141-170	6 Schools	2.35% Decline
171-190	7 Schools	1.71% Decline
191 +	14 Schools	1.48% Decline

typically the larger programs failed. (It would be desirable as a follow up to this effort to examine more closely successful programs which were large.)

CONCLUSIONS and RECOMMENDATIONS

From all of this we conclude that attendance improvement efforts oriented toward the dropout-prone should provide intensive support to students. Even well-implemented models will not be effective if program designers underestimate the cost or importance of direct services to students, i.e. personal contact and care.

I.S.226, discounting the effect of a modest implementation delay, invested \$975 per student, but since program organizers emphasized attendance monitoring equipment and staff to maintain records, the real value of the services delivered to target students was quite small, and despite a well-implemented effort, student attendance declined dramatically. The smallest amount spent by a successful school (discounting for implementation) hovered around \$1,700.

The data further remind us that our interventions, in addition to supporting closer personal ties between students and adults, must be easily managed. Smaller programs not only foster closer relationships; they are easier to start, modify, and operate.

[The obvious difficulty with these insights about spending and size is that the city's problems are not small; substantial numbers of children need help, and resources as always are scarce. While it may make sense to start with small-scale programs, educators must quickly learn to integrate more resources and to serve increasing numbers of youngsters while preserving their commitment to each individual child.] The problems involved in scaling up small programs and in assuring they maintain their child-centeredness are immense, but those are the challenges.

The second conclusion about which there can be no doubt is that our "knowledge development"/accountability efforts are seriously handicapped by the absence of comparison groups and the presence of selection effects, error, and other matters which inappropriately influence outcomes.

Efforts should be made to design future evaluations with comparison groups. Research concerns alone, however, cannot determine program

design. Toward the goal of eliminating selection procedures which are irrational, unfair or a cover-up for the absence of a program, the overall good may not be served by the Central Board of Education randomly selecting target students from the pool of eligibles if, as is possible, schools will not work as effectively with students whom they have not personally chosen. Further, the current state of knowledge on dropout prevention suggests it may be unwise to deny program managers opportunities to develop special programs for eligible sub-populations of their own choosing. In the absence of random selection, the schools' attendance records should be audited to ensure that only eligibles are served and that students are not unfairly discriminated against.

In the long run, our knowledge development/program accountability efforts should focus on producing better controlled studies which link student and implementation data empirically with outcomes.